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## Why They Cancelled Gallo's Talk

### NIH and its Bosses: Backstage in Biomedical Politics

On June 9, the National Cancer Institute announced that Robert C. Gallo, its acclaimed and embattled AIDS researcher, would answer questions at a public meeting on June 24 about his disputed role "in the discovery of HIV-1, the AIDS virus."

On June 19, the General Counsel of the Department of Health and Human Services, Michael J. Astrue, sent a memo to the Assistant Secretary of Health, James O. Mason. An exemplar of the nuke-'em school of legal tactics, Astrue referred to the announced Gallo meeting, and warned: "This will embarrass you, [Secretary of HHS] Dr. Sullivan, and the American government, and I would advise you to shut it down now."

Astrue, who served on the White House legal staff under President Reagan and in the early months of the Bush Administration, faxed a copy to C. Boyden Gray, Counsel to President Bush.

ignee to make any speech or appearance or to engage in any interview ... when the subject of the speech, appearance, or interview pertains to your official duties, whether past or present."

The effusive Gallo hasn't always abided by the directive but, officially, at least, the June 24 meeting would have been a rare official exception to the restrictive order. He would have been making his appearance on the eve of what was shaping up as his vindication in the AIDS controversy, though looming ahead was the possibility of a major conflict with the Pasteur Institute over royalties for the AIDS blood test, valued at \$50 million.

For the NIH community, proud and beleaguered, the  
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## Restructuring Defense R&D—P.5 Critical Tech Inst. Startup Near—P.6

Astrue also drafted, but apparently did not send, a memo to NIH Director Bernadine Healy, in which he referred to the meeting as "a guaranteed circus" and added, "If you proceed with this meeting, I would advise you and everyone connected with it to consult your private attorneys regarding your potential personal liability."

In mid-afternoon of the day before the meeting, its sponsor, the National Cancer Advisory Board (NCAB), announced, without explanation, that the meeting had been cancelled "Upon direction of the General Counsel of the Department of Health and Human Services," parent agency of the Cancer Institute and the other components of the National Institutes of Health.

The events leading to the meeting announcement and the sudden cancellation are recorded in a series of memoranda obtained by SGR. They provide a dismaying view of biomedical policymaking at the top.

The meeting announced for June 24 was of more than routine interest. Gallo, long enmeshed in a grueling controversy about his claim of priority in the discovery of the AIDS virus, has been under a confidential, official gag order since July 1991. Imposed by NIH Director Healy and NCI Director Samuel Broder, the order states that Gallo must "Obtain advance permission from the Director, NCI, or his/her des-

## In Brief

The final reckoning won't be in until summer's end, but indications are that many R&D budgets will take a licking on Capitol Hill this year after long eluding austerity. The biggest shocker so far, House cancellation of the Super Collider, may still be reversed, but it signifies tough times. NSF, budgeted for a \$450-million increase, got a miserly \$150 million from its House Appropriations Subcommittee—not even a cost-of-living boost. And NASA got clipped by \$300 million.

As money gets tighter, predatory instincts are sharpening among the savants of science, who, in times of feast, generally practice live and let live. The June 27 Washington Post carries an op-ed article titled "Who Needs a Space Station?" by Maxine Singer, a cancer researcher who heads the Carnegie Institution of Washington, and Donald L. Brown, President of the American Society for Cell Biology. Addressing NASA's claims of important life-sciences research to be done aboard the Station, they say, maybe, but add: "It's much more likely that biology done on the Station will turn out to be a whopping and very expensive bore."

Meanwhile, the government's own labs, some 700 of them, with combined budgets of over \$20 billion, remain a popular target of fiscal envy. Joining the pack on June 30 with a policy statement was the Industrial Research Institute (IRI), Washington-based association of high-tech industry. Urging higher federal priorities for industrial and environmental research, the IRI said: "The redirection should include the establishment of new missions, and, where justified, the consolidation or closure of certain existing federal R&D establishments."

## ... Mason Fears Investigation May Be Compromised

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Gallo case has been an embarrassment, but it now appeared that, with good fortune, the ordeal might soon end. And that could come none too soon for the many who had watched the Gallo controversy with growing dismay about its effects on public confidence in the integrity of biomedical research and political support for NIH.

Since the mid-80s, nasty rumors had widely circulated about Gallo's claimed accomplishments in AIDS research. In 1990, under prodding from Rep. John Dingell, a caustic skeptic of science's capacity to police itself, NIH undertook an investigation. A draft report severely critical of Gallo was in the works at the NIH Office of Scientific Integrity (OSI) when its author, Suzanne Hadley, was dismissed from the case by the newly arrived Director of NIH, Bernadine Healy. Healy said her concern was with style, organizational and literary, rather than substance, but Hadley refused to rewrite the report. Healy also expressed outrage at leaks from OSI and ordered a tightening of security.

But in March, despite new locks and several personnel changes, OSI leaked again, this time producing a revised draft report of the Gallo case, accompanied by a covering letter from NIH Director Healy to her superior, HHS Assistant Secretary Mason. Healy advised Mason that the investigation had "absolved" Gallo of scientific misconduct—the worst sin in the NIH hierarchy of professional misdeeds—though it held him responsible for "poor professional practice" and other lesser delinquencies.

With Healy's approval of that finding, the report was sent up the next bureaucratic rung, to the HHS Office of Scientific Integrity Review (OSIR), which reports to Assistant Secretary Mason. Among Gallo's many supporters, exoneration was widely anticipated.

It was apparently with that expectation that the plan for a meeting about the Gallo case was conceived, though Gallo's participation was not mentioned in the initial correspondence. In a letter dated May 6, Paul Calabresi, Chairman of the National Cancer Advisory Board (NCI's senior advisory body), proposed the meeting to NCI Director Broder. Calabresi, Chairman of the Department of Medicine at Brown University, noted that "It is my understanding that this investigation concluded that no scientific misconduct had occurred on the part of Dr. Gallo." Calabresi suggested that Broder establish a "special subcommittee" of the Board "to review and analyze a number of issues that emerged in consequence" of NIH's investigation of Gallo. For Chairman of the special committee, Calabresi proposed NCAB Board member Howard Temin, a Nobel laureate at the University of Wisconsin Medical School.

On May 12, NCI Director Broder sent a memo to Assistant Secretary Mason, via the office of NIH Director Healy, "To inform you that Dr. Howard Temin will chair a subcommittee of the National Cancer Advisory Board ... to address a number of issues related to Dr. Gallo and his laboratory....

This review will encompass a number of scientific and administrative issues related to the discovery of AIDS-related retrovirus and basic research in the Laboratory of Tumor Cell Biology [directed by Gallo]." No mention was made of participation by Gallo, nor, at that point, had a date been set for the meeting.

Across the top of the Broder-to-Mason memo is a handwritten note, dated May 28, from Mason to Lyle W. Bivens, Director of the Office of Scientific Integrity Review, which was examining the NIH report for Mason: "Dr. Bivens: Will this compromise your review of this case in any way?"

Bivens's answer, delivered one week later, triggered alarms at HHS headquarters, even without Gallo listed for participation in the meeting.

But in the meantime, Temin, having accepted the chairmanship of the special subcommittee, had written to Gallo, on May 22, inviting him to the meeting "to present a public statement of response to charges that have been widely made about your behavior with respect to the discovery of HIV-1, a response that you have not yet had a chance to make in public."

Temin's letter of invitation informed Gallo "you will be allowed to introduce as appendices to the minutes of this meeting copies of any important primary documents relevant to your response and any other material you wish. In the [public] announcement of this meeting, we shall ask for written questions, which will be given to you before the meeting so that you can prepare a response.... I expect your statement to last less than one hour and there to be roughly two hours for the response to questions."

Continuing, Temin wrote: "Some of the charges that have been widely made about your behavior with respect to the discovery of HIV-1, which you have not yet had a chance to respond to are:

"(1) that your laboratory may have knowingly used the French isolate, LAV, in development of the blood test for HIV-1;

"(2) that you may have repeatedly denied growing LAV

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## ... Counsel Sees "Circling the Wagons Around Gallo"

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in your laboratory;

"(3) that your laboratory may not have given credit for the help in isolating HIV-1 it gained from the growth of LAV in your laboratory;

"(4) that you may not have sent out samples of uninfected H9 cells and samples of HTLV-III to other laboratories;

"(5) that you may have deliberately obscured the origin of H9 cells; and

"(6) that you may have grouped HIV-1 with HTLV-1 and HTLV-II even after the data indicated otherwise.

"Please note," Temin's letter concluded, "that the statement of these charges here is not necessarily intended to imply that they have validity or that they lack validity." For the embattled Gallo, Temin offered a golden format.

By June 3, the meeting had been set for June 24, and the Executive Secretary of the Cancer Advisory Board sent letters of invitation to the 17 Board members, the three-member President's Cancer Panel, and the NIH Board of Scientific Counselors of the NCI Division of Cancer Etiology. The letter said, "This is an important meeting, open to the public, that will allow Dr. Robert Gallo to comment on issues surrounding his laboratory's role in the discovery of HIV, and to answer questions about these issues." On June 9, the press was invited to attend and to submit written questions in advance.

But "downtown," as suburban NIH refers to HHS headquarters, trouble was erupting. Assistant Secretary Mason had asked Bivens, the reviewer of the NIH report on Gallo, whether the meeting might "compromise" his review. In a response dated June 4, Bivens expressed qualms. The intended scope of the meeting, he said, was not evident in Broder's communication, raising the possibility, he warned, of statements that might be in conflict with the conclusions of his Office of Scientific Integrity Review.

There would be "much less chance" of compromise, Bivens suggested, if the meeting were confined to "scientific management issues in Dr. Gallo's laboratory." But Bivens expressed doubt that the misconduct allegations would be off the agenda, noting that "Dr. Healy's statements to the press regarding the NCAB review suggest that she has requested the review to 'bring the allegations ... out into the open.' It is hard to imagine," Bivens continued, "the NCAB subcommittee not getting heavily into this area."

In harmony with grapevine suspicions that NIH management is committed to exonerating Gallo, Bivens concluded with a swipe at NIH's motives: "NIH is orchestrating a series of events, and coming to conclusions, which could pre-empt an objective review and development of independent recommendations by OSIR. The NCAB review is just the latest example of this," he advised Mason.

Bivens' concern about the meeting was seconded by HHS General Counsel Astrue in two piquant communica-

tions. On June 17, he noted in a brief memo to Mason that "We have received complaints from the French about this matter already"—a reference to grumbles from American lawyers for the Pasteur Institute.

Astrue warned that "Providing a platform to Gallo on one side of this issue makes a mockery of the process—it makes it appear that we have already made up our minds and that we are circling the wagons around Gallo." And he added the aforementioned warning about embarrassment to Mason, HHS Secretary Sullivan, the US government, plus his advice to "shut it down now."

Warned by HHS's General Counsel and chief aide for misconduct review of the perils of permitting the meeting to proceed, Mason drafted a directive to Healy asking her to postpone the meeting. But assurances from NIH inspired second thoughts. The memo was never sent, and on June 19—five days before the scheduled meeting—Mason sent Healy a memo allowing the meeting to proceed, while noting, "I agree with the General Counsel that the timing of the meeting is much less than ideal."

Mason explained that he had relented on the basis of assurances by Jay Moskowitz, Healy's nominee for Deputy Director of NIH, "that the meeting will be carried out in such a manner as not to compromise or interfere" with the review of the Gallo case.

General Counsel Astrue now went into full battle mode. According to one report, in addition to faxing his sentiments to White House Counsel Gray, he went over there and discussed the matter with the President's lawyer. He also telephoned NIH Director Healy to tell her that the meeting was "illegal." Evidence of this call is in a memo, dated June 23, from NIH Legal Adviser Robert Lanman to Healy, in which Lanman notes that "You advised me that ... Astrue informed you by telephone that the meeting ... scheduled for June 24 is illegal."

Can Astrue tell her to cancel a meeting? Healy asked NIH lawyer Lanman, who, it should be noted, is detailed to NIH from Astrue's office at HHS headquarters. Lanman replied, "I asked Mr. Astrue this question personally and he advised that the meeting was illegal because the Subcommittee would be performing an investigative function that exceeded the authority of the NCAB."

After reviewing the legalities at some length, Lanman concluded: "Accordingly, the Director, NCI, has the authority to cancel the meeting and you and others in the chain of authority from the Secretary [of HHS] may direct such cancellation, given the conclusion of the General Counsel that the NCAB is exceeding its statutory authority. In addition, we believe you have independent authority to cancel the meeting by reason of your authority to control the use of NIH facilities."

Thus advised that she could cancel the Advisory Board meeting, Healy offered her own interpretation of the legal

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## ... NIH Head Rejects Demand to Call off Meeting

(Continued from Page 3)

issues in a memo to Robin Carle, the HHS Chief of Staff. Reporting that she had checked with the NIH legal counsel and the Director of the Cancer Institute, Healy wrote: "They have reconfirmed that the NCAB is an independent statutory advisory body with oversight authority and responsibility regarding the National Cancer Program. They are empowered to convene public meetings.

"If Mr. Astrue believes that it is legally impermissible to go forward with tomorrow's meeting," Healy wrote, "Mr. Astrue should deal with the Chairman of the NCAB directly. It would be inappropriate for me to do so."

Astrue promptly accepted the suggestion, sending by messenger a nasty lawyerly note to Subcommittee Chairman Temin, due in the day before the Gallo meeting to receive the National Medal of Science from the President in a ceremony at the White House.

"This letter," Astrue informed Temin, "is to reiterate my oral advice to you, which is that the meeting that you have scheduled for tomorrow ... exceeds the statutory authority of your committee, and must be cancelled."

To reinforce the point, Astrue advised the Nobel laureate that "You need to be aware that unauthorized expenditure of federal funds may expose you and others to various types of liability. I have reviewed this matter with [HHS] Secretary Sullivan," Astrue added, "who concurs that this meeting should not take place at this time."

Astrue concluded with a cordial signoff: "I trust I can count on you to conform with the law."

But the meeting was still on. Though only a couple of dozen reporters had signed up for this Washington sideshow, NCI had devised a complex security plan, outlined in a memo, dated June 19, from Paul Van Nevel, Associate Director for Cancer Communications, to the Director of the NIH Security Operations.

"We expect a large turnout," Van Nevel wrote, referring to broad interest in the biomedical community. "At this time we have no indication that there will be any disruptive activity surrounding the meeting, but think there is at least potential for disruption." (Nevel told SGR that his only concern was crowd management in a room that holds 100.)

"At the conclusion of the meeting," the security memo continued, "Dr. Richard Adamson, Director of the NCI Division of Cancer Etiology, will escort Dr. Gallo from conference room 6, down nearby stairs to the 5th floor, then down the elevator to the lobby, then out to a nearby car. Dr. Adamson asked me to let you know of this plan."

Meanwhile, two days before the meeting was scheduled to take place, a new element was introduced. Lawyers for the Pasteur Institute announced that they would hold a press conference at a nearby hotel immediately after the Gallo meeting. Suggesting a bloodbath, the Pasteur announcement stated: "Dr. Gallo, who for several years had claimed that he independently discovered the virus that causes AIDS,

has publicly admitted he was wrong in that claim. Dr. Gallo will address ... a highly unusual session where questions from the news media and the general public had to be submitted in writing a week before the event." Pasteur's lawyers, the announcement added, would field questions on the spot.

Perhaps it was the prospect of a shootout over AIDS royalties that settled the matter. About 24 hours before the meeting was scheduled to open, the National Cancer Advisory Board, citing orders from HHS's General Counsel, issued a statement saying that it had "canceled the meeting of its AIDS Subcommittee."

But as a suitable ending to this twisting tale, the meeting, in fact, was convened, though Gallo was not present.

At 2 pm on June 24, as originally scheduled, Chairman Howard Temin opened the meeting, explaining that the original purpose was "to enable Dr. Gallo to present, in his own voice, information relative to this controversy and, perhaps more importantly, to permit the Board to have a discussion of some of the lessons that can be learned about the process of scientific discovery, scientific management, and scientific administration." The meeting, he said, was carefully arranged to avoid compromising the investigation of Gallo, though the agenda he sent Gallo invites wonder.

The discussion, Temin continued, was to focus on "relations between scientists, about whether or not Dr. Gallo behaved in an uncollegial manner. Another set of terms that may be useful to distinguishing between these issues is scientific error, scientific misconduct and sharp practice or uncollegial behavior."

Sharp practice, Temin emphasized, was to be examined at the meeting, because, though disapproved of, there is no consensus among scientists on how to cope with it. "My feeling is that we must punish misconduct but that all we can do is deplore, as much as we can, sharp practice and try to teach young scientists that these things are not appreciated and are not helpful to science."

Temin then related that on the previous day, upon returning from the National Medal of Science ceremony at the White House, he was hand-delivered HHS Counsel Astrue's letter warning that the meeting "exceeds the statutory authority of your committee and therefore must be canceled." He also noted Astrue's caution about personal liability for "unauthorized expenditure of federal funds." Temin said, "So therefore, I have canceled the meeting."

Left behind are still more raw wounds in relations between NIH and the Department, and grounds for new doubts about the purity of NIH's dealings with the problem of Dr. Gallo.—DSG

### SGR Summer Schedule

The next issue of *Science & Government Report* will be published September 1, 1992.



## Restructuring Defense R&D: Plans and Analyses

This is the year in which a new fundamental strategy for defense R&D is supposed to be set in place, with emphasis on boosting defense-supported science and technology, while limiting expenditures for procurement of new weapons systems.

Congress has not yet completed action on the Pentagon's budget requests for fiscal 1993 (beginning October 1), but the early indications are that the legislators are more inclined than the Administration to embrace the pro-research policy. For the defense "technology base"—which encompasses basic research and exploratory development—the White House requested a minor increase, from \$3.9 billion this year, to \$4.084 billion next year. The House voted for \$4.6 billion.

For DOD's University Research Initiative, long a favorite source of academic pork-barrel funds, the Administration requested \$99 million. The House voted to provide \$162 million. Last year, Congress displayed enthusiasm for that account, ending up with an appropriation of \$226 million, when the Administration had requested a mere \$87 million.

While the future of defense research is being played out on Capitol Hill, official scholarship on that subject has produced an assortment of reports and studies that provide useful background for following the play. SGR recommends the following, all fresh off the press:

**Defense Science and Technology Strategy** (103 pp., no charge; available about mid-August), from the Director of Defense Research and Engineering, an exposition of the new strategy, described as "focused" on seven S&T "thrusts": Global Surveillance and Communications, Precision Strike, Air Superiority and Defense, Sea Control and Undersea Superiority, Advanced Land Combat, Synthetic Environments, Technology for Affordability. Listed for each are the various science and engineering disciplines and fields of research deemed necessary for achieving the thrusts. An accompanying note states: "While there are other goals and activities that fall outside of these thrusts, it is important to focus the program on those efforts which are most important, rather than simply provide a 'balance' across all possible investment options. Focus, not balance, is the watchword of the new S&T strategy."

Order from: Department of Defense, Directorate for Public Communications, Room 2E-777, Washington, DC 20301-1400; tel. 703/697-5737.

**Building Future Security: Strategies for Restructuring the Defense Technology and Industrial Base** (GPO Stock No. 052-003-01289-8; 160 pp., \$9.50), from the Congressional Office of Technology Assessment, latest in a recent series of OTA reports on defense restructuring (all listed in this report), offers various suggestions and insights for keeping defense technologically nimble and relatively inexpensive, including: "The structural changes in the DTIB

[Defense Technology Industrial Base] ... will require a concomitant shift in thinking about what constitutes national security and the role of science and industry in maintaining it. This new paradigm will rest on a willingness to purchase knowledge rather than hardware in many cases."

Order from (checks payable to): Superintendent of Documents, USGPO, Washington, DC 20402-9325; tel. 202/783-3238.

**Defense R&D Structuring** (Order Code IB92090; 15 pp., no charge), from the Science Policy Research Division of the Congressional Research Service, a review of recent trends in defense R&D spending, with tables covering expenditures by budget category (basic science, development, etc.) from 1980 through amounts requested for fiscal 1993. The report, by Richard M. Nunno, notes the seven "thrusts" in the *Defense Science and Technology Strategy*, and observes that "despite the forceful language in DOD's S&T strategy, some claim that it is rather superficial in content and would fail to coordinate the services' weapons development and production efforts, forcing the services to compete for funds."

Order from: Science Policy Research Division, Congressional Research Service, Library of Congress, Madison Building, Washington, DC 20450; attn. Ms. Raap; tel. 202/707-7014.

## Job Changes & Appointments

**Alastair Allcock** is returning to the Department of Trade and Industry in London in September after five years as Counselor for Science, Technology, and Energy at the British Embassy in Washington. He will be succeeded by **Don Rolt**, of the UK Health and Safety Executive, counterpart of the US Occupational Health and Safety Administration. Rolt served in the UK's Washington embassy as First Secretary for Science from 1978-82.

**John Hopps**, Principal Member of the Technical Staff at the Draper Laboratory, Cambridge, Mass., has been appointed Director of Materials Research in the National Science Foundation's Directorate for Mathematical and Physical Sciences. He succeeds **Jagdish Narayan**, who is returning to North Carolina State University, Raleigh, where he is a Distinguished University Professor.

**Michael E. Davey** has been appointed head of the newly created section for Science, Space and Defense Technology in the Science Policy Research Division of the Congressional Research Service, Library of Congress. Davey, who has specialized in space and defense S&T issues at the Division, recently returned from a year of study at the National Defense University.

**Alun Anderson**, London-based International Editor of *Science*, has been named editor of the British weekly *New Scientist*, effective in October. He succeeds **David Dickson**, who resigned in March. Anderson was formerly with the *Nature* bureaus in Washington and Tokyo.

## Startup of Critical Tech Institute Expected Soon

The long-delayed birth of the Critical Technologies Institute (CTI) is expected any day now, with RAND, the California-headquartered policy-research organization, widely expected to be named winner of the contract to run the newest agency on the federal science-policy scene.

Named to be CTI Director in the RAND proposal is Stephen M. Drezner, RAND Vice President-Research, who formerly headed RAND's Project Air Force research center and RAND's Army-sponsored Arroyo Center. The proposal calls for locating the CTI in RAND's Washington, DC, offices, with a total staff of about 50.

With a Congressional mandate to monitor technologies important for the economy and national security, CTI was written into the fiscal 1991 Defense Appropriations Act, with a startup fund of nearly \$5 million. The Pentagon was the choice for providing the money because that's where the money is. Under the Act, the funds were to be transferred to the White House Office of Science and Technology Policy (OSTP), for which CTI was to serve as a supportive research agency, insulated from fire-brigade duties.

However, the then-reigning White House Chief of Staff, John Sununu, suspecting "industrial policy" in scholarly disguise, looked with suspicion on this creation of Congressional Democrats, led by Senator Jeff Bingaman, of New Mexico. The Administration declined to spend the money, including an additional \$1.6 million that Congress voted last year for OSTP to funnel to the Institute.

Post-Sununu, a revised legislative charter, acceptable to the White House, located CTI as a ward of the National Science Foundation, which was assigned to evaluate the contract proposals for managing the Institute and to disburse the appropriations. Otherwise, NSF would not be involved. CTI, however, remains linked to the White House Science Office through an Operating Committee of senior federal officials chaired by OSTP Director D. Allan Bromley.

Early this year, it appeared that CTI was ready to go into operation. But then the Pentagon declined to release the money to NSF, insisting that its availability had expired with the 1991 fiscal year.

More than fiscal rectitude on the part of DOD is suspected in this matter. The reluctance to part with the funds is seen by some as an indication of distaste for an independent agency scrutinizing federal technology policies and practices, of which DOD's comprise the greatest share.

The legality of releasing the funds was reviewed by the Justice Department, which ruled against the Pentagon. And DOD was even told to pay up by the Office of Management and Budget, which rarely neglects an opportunity to block spending.

The CTI will come into existence with a substantial bank account: the \$4.9 million from the Defense Department, plus \$1.6 million that OSTP has already transferred to NSF. A \$1-million item for CTI in NSF's 1993 budget has survived the House Appropriations Committee, despite a

lean outcome for the Foundation overall. And CTI will hold the charmed status of a Federally Funded Research and Development Center, which means that, barring some political calamity, it can count on regular appropriations, rather than having to forage for federal contracts.

Though the CTI concept is generally associated with preparation of lists of hot technologies—a busy field of endeavor in Washington—the RAND proposal for operating the Institute stakes out broader ground. Expressing "doubt that any such list can provide a meaningful focus for technology policy in the longer run," the proposal states: "We believe that a major objective of the Institute, in conjunction with the Operating Committee, should be to develop analytic tools to help understand how the nation's technological efforts can better serve national objectives."

The RAND proposal names the following for the CTI Executive Board: Lewis M. Branscomb, Kennedy School of Government, Harvard; Donald A. Hicks, former Under Secretary of Defense for Research and Engineering; Rodney W. Nichols, Executive Director, New York Academy of Sciences; Gilbert Omenn, Dean of the School of Public Health and Community Medicine, University of Washington, and Walter L. Robb, Senior Vice President-Corporate Research and Development, GE.

## A Grim Budget Forecast

*From an assessment of fiscal 1993 budget prospects, in the April-June Congressional Report of the National Science Foundation's Office of Legislative and Public Affairs.*

The situation facing the appropriations process is not promising.... The budget summit agreement's ceiling for domestic spending tightens dramatically in FY 1993. The allowable increase for FY 1993 domestic outlays ... is under 5 percent, compared to 7-10 percent in both FY 1991 and 1992.

This 5 percent increase may appear sufficient to keep pace with inflation, but the reality is more complicated. In prior years, Congress committed monies to relatively slow-spending programs, such as education and construction activities. These programs result in little actual spending in the first year or two, but accelerate in later years. The effect is to pre-commit a significant portion of scarce incremental outlays.

The problem becomes even more severe because some programs were funded last year by delaying the obligation of the funds—some \$1.4 billion worth—until FY 1993. This further reduces the appropriations committees' discretion in allocating funds.... Appropriators expect an increase of about \$9.9 billion in domestic outlays, but they have some \$10.5 billion in prior-year outlays to address. All in all, the appropriations committees estimate they will have to make an average cut of 2 percent below FY 1992 levels.

## More IN PRINT: Defense Tech, FAA, Guides to Jobs

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**Defense Technology Base: Risks of Foreign Dependencies for Military Unique Critical Technologies** (GAO/NSIAD-92-231; 16 pp., no charge), from the General Accounting Office (GAO), requested by Rep. Les Aspin, Chairman of the House Armed Services Committee, a brief discussion of US standing in technologies deemed critical by the Pentagon, with the focus on 6 of 21 that are principally for military purposes: sensitive radar, signature control (i.e., stealth technology), environmental effects on weapons systems, pulsed power (for directed-energy weapons and sensors), hypervelocity projectiles and propulsion, and high-energy density materials (for enhancing explosives and projectile propellants). Reporting the assessments of DOD's "lead agents" for critical technologies, GAO says that while other countries hold "leads in niches" of several fields, the main concern was stealth technology, because "if nations are willing to sell such technology to anyone, this could affect US national security." The report adds that the lead agent for high-energy density materials and hypervelocity projectiles and propulsion "stated that he was concerned that US participation in joint cooperative efforts with foreign countries, including allies, could result in the United States giving away technology without getting anything in return." The conclusion behind the opaque prose is that the US is self-sufficient in the six purely military technologies.

Also from the GAO: **Aviation Research: FAA Could Enhance Its Program to Meet Current and Future Challenges** (GAO/RCED-92-180; 18 pp., no charge), requested by senior members of the House Science, Space, and Technology Committee, says the Federal Aviation Administration should put more resources into long-term research, as recommended in the Aviation Safety Research Act of 1988. The GAO found that the FAA has increased spending on the fields cited in the Act—human factors and medicine, simulation modeling, aircraft structures, and fire safety—but says that only \$33 million was devoted to long-term research, as defined in the Act, while \$163 million was "focused on short-term projects."

The report notes that the FAA has not acted on its Congressional authorization to establish college- and university-based Centers for Excellence in Aviation Research. It adds that the FAA "believes that the cost of establishing and maintaining the centers—between \$2 million and \$3 million annually per center—may limit FAA to establishing no more than one or two in the next few years." Regarding the academic centers, GAO states, "Officials at the National Science Foundation and NASA believe that FAA should encourage industry participation in these centers to offset costs and speed technology transfer." Not explained is why inquiry was made to these paragons of technology transfer.

A related GAO report on the FAA, issued in February, is also available: **Aviation Research: Funding, Staffing, and**

**Timing of FAA's Research Projects** (GAO/RCED-92-108FS).

And another from the GAO: **Export Promotion: A Comparison of Programs in Five Industrialized Nations** (GAO/GGD-92-97; 36 pp., no charge), says that France, Italy, and the UK generally exceed the US and Germany in promoting exports. For non-agricultural exports in 1990, the GAO reports, "promotion spending as a percentage of exports ranged from a high of \$1.99 per \$1000 in France to a low of \$0.22 per \$1000 in Germany. The US fell near the low end, spending \$0.59 for every \$1000 of exports." The report adds that the European countries field bigger staffs than the US for providing commercial services aimed at winning exports and that they work harder at assisting their industries to succeed in foreign markets.

Order from: USGAO, PO Box 6015, Galtersburg, Md. 20877; tel. 202/275-6241.

**Employment Guide for Engineers and Scientists: A Practical Job Hunter's Manual, Volume I**, (112 pp, in a new edition for students, Catalog No. UH0188-3), and **Directory of Employers, Volume II**, (80 pp., \$14.95 for the two volumes for members of the Institute of Electrical and Electronics Engineers; \$19.95 for non-members; free for unemployed non-student IEEE members).

The student job guide, "updated for the 90s," ranges over locating job possibilities, resume preparation, interview tactics, commonly asked interview questions, evaluating job offers, etc. Volume II contains the names, addresses, and telephone numbers of hundreds of industrial and government organizations that are major employers of scientists and engineers.

Also available, an IEEE job guide for experienced engineers (Catalog No. UH0186-7), published last year.

Order from: IEEE Service Center, 445 Hoes Lane, PO Box 1331, Piscataway, NJ 08855-1331; tel. 1/800-678-4333.

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## IN PRINT: Euro-R&D, Health Statistics, Earthquakes

*The publications listed are obtainable as indicated—not from SGR.*

**The EC 1992 Harmonization Process and Issues in Research and Development** (92-572 SPR; 20 pp., no charge), from the Science Policy Research Division of the Congressional Research Service (part of the Library of Congress), an overview of R&D collaboration financed and sponsored by the European Commission. Though amounting to only 1.5 percent (in 1987) of the national R&D programs of the 12 EC nations, the combined efforts have been increasing, especially in some of the fields currently courted in Washington as "critical technologies"—information technologies, advanced communications, materials, etc. The largest are wrapped up in four major R&D "Framework" programs, details of which are summarized in a table. The report, by Glenn J. McLoughlin, suggests that "Pan-European R&D efforts may provide lessons for the US policymakers and industry leaders of how best to leverage R&D efforts during a time of static or declining economic resources." But it also notes that doubts exist about value for money in these big efforts and whether they are usefully linked to the national R&D programs of the member nations. Cited among unresolved policy issues are appropriate research relationships with non-member countries, particularly the US.

Order from: Science Policy Research Division, Congressional Research Service, Library of Congress, Madison Building, Washington, DC 20450; attn. Ms. Raap; tel. 202/707-7014.

**Health, United States, 1991 and Prevention Profile** (GPO Stock No. 017-022-01156-5; 339 pp., \$18), the Public Health Service's annual compilation of basic health data, presented in 143 tables covering vital statistics, health-care expenditures, utilization of health-care facilities and services, manpower, etc. In the same binding, *Prevention Profile*, outlining the PHS's national health goals for the year 2000. These include reductions in health disparities among various segments of the population, improved traffic safety, smoking cessation, reductions in homicides, suicides, etc. There's also a scorecard on how well the US fared in attaining the goals stated in the Surgeon General's 1976 report *Healthy People*.

Order from (checks payable to): Superintendent of Documents, USGPO, Washington, DC 20402-9325; tel. 202/783-3238.

**Goals, Opportunities and Priorities for the USGS Earthquake Hazards Reduction Program** (USGS Circular 1079; 60 pp., no charge), from the US Geological Survey, what's described as the "first wholesale reformulation" of the Earthquake Hazards Reduction Program issued by the USGS in 1978. The new program, based on analyses of the 1989 Loma Prieta earthquake in California and assessments of earthquake threats elsewhere in the US, presents research

and implementation options priced at \$50 million and \$100 million per year. The report is by Robert Page, David Boone, Robert Bucknam, and Wayne Thatcher.

Order from: Map Distribution, USGS, Box 25286, Federal Center, Denver, Colorado 80225. The report is also available from USGS Earth Science Information Centers in various parts of the US. For addresses: tel. 1/800-USA-MAPS.

**Science, Technology, and American Diplomacy** (Serial J, 508 pp., no charge), a mass of material on US government S&T relations with other countries, grudgingly compiled annually by the State Department under orders from Congress, which in this instance, as in many others, mandates heavy reporting requirements as a device for monitoring and prodding the downtown bureaucracy. Routed from the State Department to the White House and on to the Speaker of the House, the report was printed by the House Committee on Science, Space, and Technology and the Committee on Foreign Affairs. Their respective Chairmen, George Brown Jr. and Dante Fascell, gripe in an introductory note that the document lacks "adequate information about the level of funding associated with science and technology activities under bilateral agreements," though, they point out, the financial data are contained in a 1991 report by the Federal Coordinating Council on Science, Engineering, and Technology, an appendage of the White House Science Office. The diplomacy report includes a list of 668 American S&T agreements, large as well as minuscule, with other nations, "narratives" concerning major bilateral and multi-national S&T programs, relevant legislation, a roster of science counselors in US embassies, etc.

Also from the House Science Committee: **Renewable Energy and the National Energy Strategy** (No. 110, 150 pp., no charge), testimony and background material from a hearing in April by the Science Committee's Subcommittee on Investigations and Oversight, chaired by Rep. Howard Wolpe, who has led the way in challenging the secretive folkways of the Department of Energy. The hearing, to which DOE declined to send the senior officials requested by Wolpe, delved into the Department's planning processes, and turned up, among other findings, DOE's own internal assessment of priorities in its support of scientific research. On a list of 11 programs, the Superconducting Super Collider placed 10th—a fact trumpeted by Wolpe and allies in persuading the House in June to kill the SSC [SGR, July 1]. The only witness at the hearing was a senior official from the General Accounting Office, Victor Rezendes, who, when asked about DOE evaluation of the SSC, replied, "It was considered low ranking—they made no bones about it—in all the various portfolios and scenarios."

Order from: Committee on Science, Space, and Technology, US House of Representatives, 2320 Rayburn HOB, Washington, DC 20515; attn. Laura Geer; tel. 202/225-6371

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